

**WHAT IS CLAIMED IS:**

1. An ex-vessel core melt retention device preventing molten core concrete interaction, which is installed for alleviating risks due to unexpected accidents over accidents considered as a design criteria of a nuclear plant, the device comprising:

horizontal jacket pipes located on a shell boundary of a cavity floor, the horizontal jacket pipes having water inlets A formed at their lower half in an appropriate density, the water inlets allowing water to enter the bottom of the pipes;

vertical pipes connected at both ends of the horizontal jacket pipes in the form of a dovetail to communicate with each other; and

a water supply part located at the lower portion of the horizontal jacket pipes for allowing water to enter from the whole area of the bottom.

2. The device as claimed in claim 1, wherein the water supply part includes shallow water channels being engraved into the cavity floor, in which the horizontal pipes are installed, and running crosswise to the horizontal pipes.

3. The device as claimed in claim 1, wherein the water supply part includes horizontal supply pipes which is arranged normal to and beneath the horizontal jacket pipes and has water inlets B formed in all directions and locations.